

Recovery Plan Action Status

Plan Name: Water Howellia (Howellia aquatilis) Recovery Plan, Public and Agency Review Draft

Plan Status: Draft

Plan Date: 24-Sep-96

Lead Agency: USFWS

Lead Office: Montana Ecological Services Field Office

(406)
449-3225)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Water howellia (Howellia aquatilis)	1	111	Conservation strategy. Flathead National Forest	Complete	Prior to FY 1995	FY 1995 - FY 1999	U.S. Forest Service	Management: Planning	Labor type not yet selected	Conservation Strategy completed; currently being implemented.
Water howellia (Howellia aquatilis)	1	112	Management plan, Turnbull NWR	Complete	FY 2000 - FY 2004	FY 2007	U.S. Fish and Wildlife Service	Management: Planning	Labor type not yet selected	Land management plan complete and being implemented.
Water howellia (Howellia aquatilis)	1	113	Management plan, Ridgefield NWR	Partially Complete	FY 2008		U.S. Fish and Wildlife Service	Management: Planning	Labor type not yet selected	Population occurs within established Research Natural Area. Planning process underway.
Water howellia (Howellia aquatilis)	1	114	Management plan, McChord AFB	Ongoing Not Current	FY 2000 - FY 2004	FY 2007	United States Air Force	Management: General	Labor type not yet selected	INRMP completed in 2003 but has not been updated. Special management designation is being considered for the area that harbors Howellia aquatilis
Water howellia (Howellia aquatilis)	1	115	Management plan, Fort Lewis Military Reservation	Complete	FY 2000 - FY 2004	FY 2000 - FY 2004	United States Air Force	Management: Planning	Labor type not yet selected	INRMP completed and being implemented.
Water howellia (Howellia aquatilis)	1	116	Management plan, Spokane District, Bureau of Land Management.	Ongoing Not Current	Prior to FY 1995	Prior to FY 1995	U.S. Bureau of Land Management	Management: Land Use	Labor type not yet selected	Land management plan currently being developed.
Water howellia (Howellia aquatilis)	1	117	Management plan, Mendocino National Forest.	Complete	Prior to FY 1995	FY 1995 - FY 1999	U.S. Forest Service	Management: Planning	Labor type not yet selected	Occurrence discovered in 1996
Water howellia (Howellia aquatilis)	2	12	Promote protection of key occurrences on non-federal lands, including those that are within metapopulations, as well as significant outlying geographic extensions.	Partially Complete	Prior to FY 1995		Oregon Natural Heritage Program, Washington Natural Heritage Program, California Natural Diversity Database, Idaho Conservation Data Center, Montana Natural Heritage Program, U.S. Fish and Wildlife Service	Management: Land Use	Labor type not yet selected	Although not part of the recovery criteria, protection on non-federal lands will contribute significantly to conservation of the species. Protection in place for Plum Crk Timber lands in MT and occurrences in Idaho.

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Water howellia (Howellia aquatilis)	3	13	Promote special management designations (e.g., Research Natural Areas, Botanical Special Interest Areas) on federal lands.	Not Started			U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	2	14	Pursue appropriate protections under Section 104	Not Started			U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers	Work type not yet selected	Labor type not yet selected	This is an ongoing responsibility of the Army Corps.
Water howellia (Howellia aquatilis)	2	2	Promote the highest level of non-federal protection available for all occurrences.	Not Started			Oregon Natural Heritage Program, Washington Natural Heritage Program, California Natural Diversity Database, Idaho Conservation Data Center, Montana Natural Heritage Program, U.S. Fish and Wildlife Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	2	311	Conduct study of seasonal and cyclic hydrologic characteristics of occupied habitat.	Ongoing Current	Prior to FY 1995		U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Research: Population Surveys	Labor type not yet selected	Sites from all geographic areas should be studied over a 5-year period. Turnbull NWR, Flathead NF, and Fort Lewis doing some observation.
Water howellia (Howellia aquatilis)	2	312	Determine which occurrences are hydrologically linked and characterize the nature of the relationship	Partially Complete	FY 2000 - FY 2004		U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Research: Population Surveys	Labor type not yet selected	Some observation occurring Turnbull NWR, Flathead NF, and Fort Lewis, WA. Will entail a review of existing information, analysis, and subsequent report preparation.
Water howellia (Howellia aquatilis)	2	313	Evaluate successional dynamics of upland community types surrounding occupied H. aquatilis habitat, and how those dynamics may affect the species	Ongoing Current	FY 2000 - FY 2004		U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Research: Habitat Status	Labor type not yet selected	Observations in MT, WA, and ID

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Water howellia (Howellia aquatilis)	2	314	Evaluate successional dynamics of occupied wetland vegetation types.	Ongoing Current	FY 2000 - FY 2004		U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Research: Habitat Status	Labor type not yet selected	Observations in MT, ID
Water howellia (Howellia aquatilis)	2	315	Determine the relationship between H. aquatilis abundance and nutrient availability in wetland substrates and surface water.	Not Started			U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	2	316	Determine optimum physical characteristics of the associated habitat features.	Not Started			U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	2	321	Forest management practices (road building, timber harvest, fire)	Ongoing Current	FY 1995 - FY 1999		U.S. Forest Service, United States Air Force	Management: Land Use	Labor type not yet selected	Implementation of protections on Flathead NF, Turnbull NWR, Plum Crk Lands in MT
Water howellia (Howellia aquatilis)	2	322	Grazing / livestock use.	Ongoing Current	FY 1995 - FY 1999		U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Management: Land Use	Labor type not yet selected	Protections in place on Flathead NF, MT, and cessation of grazing Turnbull NWR.
Water howellia (Howellia aquatilis)	2	323	Military training activities	Ongoing Current	FY 2000 - FY 2004	FY 2006	United States Air Force	Management: General	Labor type not yet selected	Fort Lewis and McCord AFB have protections in place.
Water howellia (Howellia aquatilis)	2	324	Elucidate the effects of spread of Phalaris arundinacea on H. aquatilis occurrence trends and develop management practices as needed	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, United States Air Force	Research: Management Techniques	Labor type not yet selected	Occurrences in ID and WA are inventoried and control actions implemented for canary grass control.

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Water howellia (Howellia aquatilis)	2	325	Elucidate threat of invasive or noxious species on occurrence trends and metapopulation dynamics	Not Started			Oregon Natural Heritage Program, Washington Natural Heritage Program, California Natural Diversity Database, Idaho Conservation Data Center, Montana Natural Heritage Program, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	2	326	Assess the effect of predation and disease on the species, especially seeds and seedlings.	Not Started			U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	2	327	Evaluate effect of prescribed burning on H. aquatilis and its habitat.	Not Started			U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	2	33	Conduct monitoring to assess occurrence trends.	Ongoing Current	FY 1995 - FY 1999		U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service, United States Air Force	Research: Population Surveys	Labor type not yet selected	Trend information should be used to guide management actions. Some trend info available for MT and ID occurrences
Water howellia (Howellia aquatilis)	2	341	Conduct research to better understand metapopulation dynamics	Not Started			Oregon Natural Heritage Program, Washington Natural Heritage Program, California Natural Diversity Database, Idaho Conservation Data Center, Montana Natural Heritage Program, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	2	342	Genetic variation, within core areas / metapopulations and across the species' range.	Partially Complete	FY 2010		U.S. Fish and Wildlife Service	Research	Species Expert	
Water howellia (Howellia aquatilis)	2	343	Mechanisms of seed dispersal.	Partially Complete	FY 2010	FY 2011	U.S. Fish and Wildlife Service	Research: Other Information	Species Expert	

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Water howellia (Howellia aquatilis)	2	344	Longevity of seed viability.	Not Started			U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	2	345	Relative contributions of submergent and emergent fruits to the seed bank, and assess possible variation in seed germination biology from each fruit type	Not Started			U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	2	41	Conduct intensive surveys in the areas of known historical occurrence in California and Oregon.	Not Started			Oregon Natural Heritage Program, Washington Natural Heritage Program, California Natural Diversity Database, Idaho Conservation Data Center, Montana Natural Heritage Program, U.S. Fish and Wildlife Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	3	42	Continue efforts to relocate historically known occurrences in Washington	Not Started			Washington Natural Heritage Program, U.S. Fish and Wildlife Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	3	43	Conduct de novo inventories in suitable habitats throughout the remaining extant range.	Ongoing Current	Prior to FY 1995		Oregon Natural Heritage Program, Washington Natural Heritage Program, California Natural Diversity Database, Idaho Conservation Data Center, Montana Natural Heritage Program, U.S. Fish and Wildlife Service	Acquisition: Exchange	Labor type not yet selected	
Water howellia (Howellia aquatilis)	3	51	If reintroduction is found to be appropriate and feasible, a reintroduction plan will be developed and implemented.	Not Started			U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	

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Water howellia (Howellia aquatilis)	3	61	Develop and conduct training programs (e.g., to be given for wetland delineation, ecology and other concerned agency personnel, as well as private landowners, etc.).	Not Started			Oregon Natural Heritage Program, Washington Natural Heritage Program, California Natural Diversity Database, Idaho Conservation Data Center, Montana Natural Heritage Program, U.S. Fish and Wildlife Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	3	611	Conduct training for appropriate field personnel in Oregon and California.	Not Started			Oregon Natural Heritage Program, Washington Natural Heritage Program, California Natural Diversity Database, Idaho Conservation Data Center, Montana Natural Heritage Program, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Work type not yet selected	Labor type not yet selected	
Water howellia (Howellia aquatilis)	3	62	Develop a brochure or fact sheet for public dissemination, and provide presentations as appropriate.	Ongoing Current	FY 2010	FY 2010	U.S. Fish and Wildlife Service	Work type not yet selected	Labor type not yet selected	Efforts to manage species and habitat would benefit from an interested, well-informed public.
Water howellia (Howellia aquatilis)	3	62	Develop a brochure or fact sheet for public dissemination	Complete	FY 2010	FY 2010	Idaho Natural Heritage Program	Management: Population Monitoring	Internal Technical Assistance	USFWS with Idaho Natural Heritage produce brochure to educate private land owners to identify and possibly protect howellia occurrences.
Water howellia (Howellia aquatilis)	3	631	Provide information to private landowners in Washington who are applying for timber harvest permits on their lands.	Not Started			Washington Natural Heritage Program	Work type not yet selected	Labor type not yet selected	

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Water howellia (Howellia aquatilis)	3	632	Provide information to the public, as requested, through the state Natural Heritage programs and other appropriate agencies.	Ongoing Current	Prior to FY 1995		Oregon Natural Heritage Program, Washington Natural Heritage Program, California Natural Diversity Database, Idaho Conservation Data Center, Montana Natural Heritage Program, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service, U.S. Forest Service	Other: Information and Education	Labor type not yet selected	State heritage programs have occurrence data since 1983 and updated regularly.
Water howellia (Howellia aquatilis)	2	7	Establish a technical working group to periodically review the status of the species and assess the effectiveness of the management plans and other recovery tasks.	Not Started			U.S. Fish and Wildlife Service	Work type not yet selected	Labor type not yet selected	